BRUHAT BENGALURU MAHANAGARA PALIKE

YELAHANKA ZONE

DIVISION: BYATARAYANAPURA

SUB DIVISION: KODIGEHALLI

Name of Work: Estimate For Improvements To Roads And Drains In Various Cross Roads Of Devinagara, Lottegolahalli And Surrounding Areas In Ward No. 12 - Kodigehalli

ESTIMATED COST: Rs.75 Lakhs

BRUHAT BANGALORE MAHANAGARA PALIKE

Executive Engineer-Betranapura

Detailed Estimate

Name of the Work : Improvements to Roads and Drains in various cross roads of Devinagara, Lottegahalli and sorrounding areas in word no,12 - Kodigehalli

		Estimate Amount :	7500000.00

Sl. No	Particulars	Unit	Nos	L in m	B in m	D in m	Quantity	Rate in Rs	Total Amount in Rs
	Drain								
1	Removing and Resetting of Footpath Slab and pointing in C.M (1:3) (Approved Rate)								
		Sqm							
	Approved Rate	235							
	Devi Nagar,Lotegahalli								
	RHS 2nd Cross Road		2	268.00	1.20		643.2		
	RHS 3rd Cross Road		2	246.00	1.20		590.4		
	RMV Cluster Phase 1 Road		2	269.00	1.20		645.6		
							1879.2		
	Deduct 20% Missing/Damaged Slab						375.84		
							1503.36	235	353289.6
2	Earth work excavation by manual means for drains,canals, waste weir, draft, approach channels, key trenches, foundation of bridges and such simillar works in all kinds of soils , as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work.								
	(Page No. 5, SI.No.1.4.1 of KPWD S.R 2021-22.Volume-1).								
		Cum							
	Basic rate	186.00							
	Area Wieght age @ 10%	18.60							
	Total Rate in Rs	204.60							
	Drain Desilting								
	Devi Nagar,Lotegahalli								
	RHS 2nd Cross Road		2	268.00	0.45	0.40	96.48		
	RHS 3rd Cross Road		2	246.00	0.45	0.40	88.56		
	RMV Cluster Phase 1 Road		2	269.00	0.45	0.40	96.84		
	Culvert								
	Main Road		1	6.00	1.40	1.20	10.08		
	1st main LHS 3rd t Cross Road		1	6.00	1.40	1.20	10.08		
	1st Main LHS 4th Cross Road		1	6.00	1.40	1.20	10.08		

	1st Main RHS 6th Cross Road		1	5.50	1.40	1.20	9.24		
							321.36	204.6	65750.26
3	**Providing B S slabs of selected quality roughly dressed having a size of 10 cms thick and fixed in cement mortar (1:6) including fixing curing ete., complete. as directed by the Engineer in Charge of the work (excluding GST and Area Leading Charges)**								
	Approved Rate on 18-06-2022								
		Sqm							
	Aapproved rate	837							
	Area weightage 10%	83.7							
	Total	920.7							
	Wall								
	Considering the Quantity from Item No.1 for damaged slab						375.84	920.70	346035.888
4	**Providing and laying in position Reinforced cement concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately)M20 Design Mix Using 20 mm nominal size graded crushed coarse aggregates**								
	(Page No. 17, SI.No.2.4.2 of KPWD S.R 2021-22.Volume-1).								
		Cum							
	Basic rate	6256							
	For Form Work	312.8							
	Sub Total	6568.8							
	Area Wieght age @ 10%	656.88							
	Total Rate in Rs	7225.68							
	For New Drain								
	For Raft								
	2nd Cross Road end to Kannurama Temple		1.00	44.00	0.90	0.15	5.94		
	For Side Wall								
	2nd Cross Road end to Kannurama Temple		2.00	44.00	0.15	0.7	9.24		
							15.18	7225.68	109685.8224
5	**Supplying, Fitting and Placing un-coated TMT bar Reinforcement in sub-structure complete as per Drawing and Technical Specifications. MORTH Specification NO.1600&2200 (PWD SR 2021-22 Vol -III Pg 99 item no 13.1)**								
	Basic rate	103329							
	Area weightage 10%	10332.9							
	Sub Total	113661.9							

	For Drain	Cum					15.18		
		kg	Steel assumed 60Kg/Cum of Concrete				910.8		
		ton					0.9108		
							0.9108	113661.9	103523.2585
6	**Providing and Fixing pre cast covering Slab 100mm thick made out of CC , Jelly 20mm Down Size with steel reinforcement including form work, curing, including cost of all materials, labour, hire charges of machinery, loading, unloading, lead and lift, transportation etc, complete as per Engineer incharge. (Data Rate)**								
		Sqm							
	Data rate	2072.00							
	2nd Cross Road end to Kannurama Temple		1.00	44.00	1.20		52.80	2072.00	109401.60
	KERB								
7	**Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances**								
		Cum							
	Basic rate	5926.00							
	Area Weightage 10%	592.60							
	Total	6518.60							
	For Below Kerb Stone								
	RMV Cluster Phase 1 Road		2.00	269.00	0.20	0.10	10.76		
	Drain Coping								
	RHS 2nd Cross Road		2.00	268.00	0.15	0.20	16.08		
	RHS 3rd Cross Road		2.00	246.00	0.15	0.20	14.76		
	RMV Cluster Phase 1 Road		2.00	269.00	0.15	0.20	16.14		
	Drain PCC								
	2nd Cross Road end to Kannurama Temple		1.00	44.00	0.20	0.10	0.88		
	Culvert								
	Main Road		1.00	6.00	1.40	0.15	1.26		
	1st main LHS 3rd t Cross Road		1.00	6.00	1.40	0.15	1.26		
	1st Main LHS 4th Cross Road		1.00	6.00	1.40	0.15	1.26		
	1st Main RHS 6th Cross Road		1.00	5.50	1.40	0.15	1.16		
							63.56	6518.60	414289.62

8	**Providing and fixing pre cast solid cement concrete kerb stones made out of M20 with top and bottom width 114 and 165 mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting including formwork, curing, including cost of materials, labour charges of machinery, loading and unloading, lead and lift, transportation ete.,complete as directed by the Engineer in Charge of the work (Approved Rate)**								
		Nos							
	Approved rate	507.00							
	RMV Cluster Phase 1 Road		2.00	269.00			538.00		
	Deduct 20% Existing Kerb						107.60		
							430.40	507.00	218212.80
9	**Removing and resetting of kerb stones**								
	Approved Rate on 18-06-2022								
		Mtr							
	Approved rate	118.00							
	RMV Cluster Phase 1 Road(80%)		1.00	430.40			430.40		
							430.40	118.00	50787.20
10	**Painting two coats after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces (V-III, P.No.56, I.No.8.10 of PW, PWD SR 2021-22)**								
		Sqm							
	Basic Rate	85.00							
	Area Weightage 10%	8.50							
	Total Rate	93.50							
	RMV Cluster Phase 1 Road		1.00	538.00		0.35	188.30	93.50	17606.05
	Roads								
11	**Earth work in surface excavation by mechanical means for lowering & leveling the ground for all works other than foundation in all kinds of soils & upto depth not exceeding 300mm as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter including dressing of excavated surfaces, disposing off or levelling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage of machinery & other appurtenances required to complete the work ((V-I, P.No-8, I No-1.12 of PWD SR 2021-22)**								
		Cum							
	Basic Rate	65.00							
	Area Weightage 10%	6.50							
	Total Rate	71.50							
	Pot Hole and Profile Correction								
	Devi Nagar,Lotegahalli								

	RHS 2nd Cross Road		1.00	268.00	1.90	0.25	127.30		
	RHS 3rd Cross Road		1.00	246.00	1.60	0.25	98.40		
	RMV Cluster Phase 1 Road		1.00	269.00	1.80	0.25	121.05		
	2nd Cross Road end to Kannurama Temple		1.00	44.00	5.50	0.15	0.00		
							346.75	71.50	24792.63
12	**Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver/grader in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density (V-III, P.No-24,I No-4.27A)of PWD SR 2021-22).**								
		Cum							
	Basic Rate	2394.00							
	Area Weightage 10%	239.40							
	Total Rate	2633.40							
	Asphalt Road								
	Pot hole /Profile Correction								
	RHS 2nd Cross Road		1.00	268.00	1.90	0.15	76.38		
	RHS 3rd Cross Road		1.00	246.00	1.60	0.15	59.04		
	RMV Cluster Phase 1		1.00	269.00	1.80	0.15	72.63		
							208.05	2633.40	547878.87
13	**Providing and applying primer coat with SS1 grade Bitumen Emulsion on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.90 kg per m2 using mechanical means. (V-III, P.No-29,I No-5.1(i) of PWD SR 2021-22).**								
		Sqm							
	Basic Rate	44.00							
	Area Weightage 10%	4.40							
	Total Rate	48.40							
	Asphalt Road								
	Devi Nagar,Lotegahalli								
	RHS 2nd Cross Road		1.00	268.00	1.90		509.20		
	RHS 3rd Cross Road		1.00	246.00	1.60		393.60		
	RMV Cluster Phase 1 Road		1.00	269.00	1.80		484.20		
							1387.00	48.40	67130.80
14	**Providing and applying tack coat with RS1 Bituminous Emulsion using emulsion pressure distributor at the rate of 0.20 kg/m2 on the prepared bituminous surface cleaned with mechanical broom.(V-III, P.No-29,I No-5.3(i) of PWD SR 2021-22).**								
		Sqm							
	Basic Rate	12.00							
	Area Weightage 10%	1.20							

	Total Rate	13.20							
	Asphalt Road								
	Devi Nagar,Lotegahalli								
	RHS 2nd Cross Road		1.00	268.00	1.90		509.20		
	RHS 3rd Cross Road		1.00	246.00	1.60		393.60		
	RMV Cluster Phase 1 Road		1.00	269.00	1.80		484.20		
							1387.00	13.20	18308.40
15	**Providing and laying Dense Graded Bituminous Macadam with 40/60 TPH capacity HMP using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 505 complete in all respects. (V-III, P.No-33,I No-5.12C of PWD SR 2021-22).**								
		Cum							
	Basic Rate	9889.00							
	Area Weightage 10%	988.90							
	Total Rate	10877.90							
	Asphalt Road								
	Devi Nagar,Lotegahalli								
	RHS 2nd Cross Road		1.00	268.00	1.90	0.05	25.46		
	RHS 3rd Cross Road		1.00	246.00	1.60	0.05	19.68		
	RMV Cluster Phase 1 Road		1.00	269.00	1.80	0.05	24.21		
							69.35	10877.90	754382.37
16	**Providing and laying Bituminous Concrete with 40/60 TPH capacity hot mix plant using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 5.4 per cent of mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 complete in all respects (V-III, P.No.36, I.No.5.16C of PWD SR 2021-22).**								
		Cum							
	Basic Rate	11531.00							
	Area Weightage 10%	1153.10							
	Total Rate	12684.10							
	Asphalt Road								
	Devi Nagar,Lotegahalli								
	RHS 2nd Cross Road		1.00	268.00	6.50	0.04	69.68		
	RHS 3rd Cross Road		1.00	246.00	6.00	0.04	59.04		
	RMV Cluster Phase 1 Road		1.00	269.00	7.00	0.04	75.32		
							204.04	12684.10	2588063.76

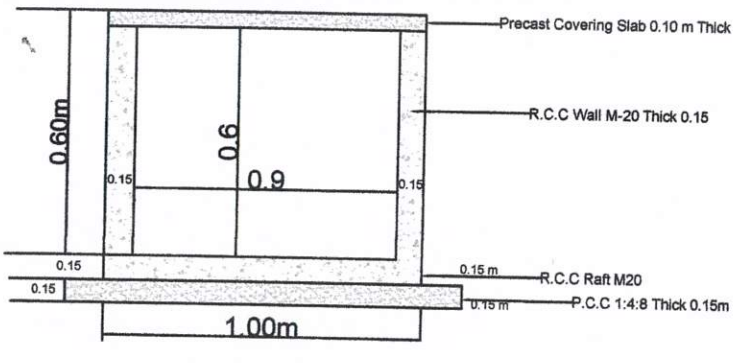
17	**Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 g/ m2 area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35:2015.The finished surface to be level, uniform and free from streaks and holes.(V-III,I No-8.15, P.No-57 of KPWD SR 2021-22)**								
		Sqm							
	Basic Rate	478.00							
	Area Weightage 10%	47.80							
	Total Rate	525.80							
	Asphalt Road								
	Devi Nagar,Lotegahalli								
	RHS 2nd Cross Road		1.00	268.00	0.10		26.80		
	RHS 3rd Cross Road		1.00	246.00	0.10		24.60		
	RMV Cluster Phase 1 Road		1.00	269.00	0.10		26.90		
							78.30	525.80	41170.14
	CULVERT								
18	**Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of**								
		Cum							
	Basic Rate	5752.00							
	Area Weightage 10%	575.20							
	Total Rate	6327.20							
	Culvert								
	Main Road		1.00	6.00	1.10	0.15	0.99		
	1st main LHS 3rd t Cross Road		1.00	6.00	1.10	0.15	0.99		
	1st Main LHS 4th Cross Road		1.00	6.00	1.10	0.15	0.99		
	1st Main RHS 6th Cross Road		1.00	5.50	1.10	0.15	0.91		
							3.88	6327.20	24533.72
19	**Providing and laying in position Reinforced cement concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming**								
		Cum							
	Basic rate	6256.00							
	For Form Work	312.80							
	Sub Total	6568.80							
	Area Wieght age @ 10%	656.88							
	Total Rate in Rs	7225.68							
	CULVERT								
	Bottom Raft								
	Main Road		1.00	6.00	0.90	0.15	0.81		

	1st main LHS 3rd t Cross Road		1.00	6.00	0.90	0.15	0.81		
	1st Main LHS 4th Cross Road		1.00	6.00	0.90	0.15	0.81		
	1st Main RHS 6th Cross Road		1.00	5.50	0.90	0.15	0.74		
							3.17		
	Side Wall								
	Main Road	Cum	2.00	6.20	0.15	0.60	1.12		
	1st main LHS 3rd t Cross	Cum	2.00	6.20	0.15	0.60	1.12		
	1st Main LHS 4th Cross	Cum	2.00	6.20	0.15	0.60	1.12		
	1st Main RHS 6th Cross	Cum	2.00	6.20	0.15	0.60	1.12		
							4.46		
							7.64	7225.68	55178.91
20	**Supplying, Fitting and Placing un-coated TMT bar Reinforcement in sub-structure complete as per Drawing and Technical Specifications.(V-III, I.No 13.1 Page No 99, PWD SR 2021-22) issue rate dated 07-04-22**								
	Basic Rate	103329.00							
	Area Weightage 10%	10332.90							
	Total Rate	113661.90							
	For Culvert	Cum					7.64		
		kg	Steel assumed 90 Kg/Cum of Concrete				687.29		
		tonne				Tn	0.69		
							0.69	113661.90	78118.12
21	**Providing and Fixing pre cast covering Slab 230mm thick made out of CC , Jelly 20mm Down Size with steel reinforcement including form work, curing, including cost of all materials, labour, hire charges of machinery, loading, unloading, lead and lift, transportation etc, complete as per Engineer incharge. (Data Rate)**								
		Sqm							
	Data Rate	5037.00							
	Culvert cover Slab								
	Main Road		1.00	6.00	1.20		7.20		
	1st main LHS 3rd t Cross Road		1.00	6.00	1.20		7.20		
	1st Main LHS 4th Cross Road		1.00	6.00	1.20		6.60		
	1st Main RHS 6th Cross Road		1.00	5.50	1.20		6.60		
							27.60	5037.00	139021.20
22	**Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 g/ m2 area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35:2015.The finished surface to be level, uniform and free from streaks and holes.(V-III,I No-8.15, P.No-57 of KPWD SR 2021-22)**								
		Sqm							
	Basic Rate	478.00							
	Area Weightage 10%	47.80							
	Total Rate	525.80							

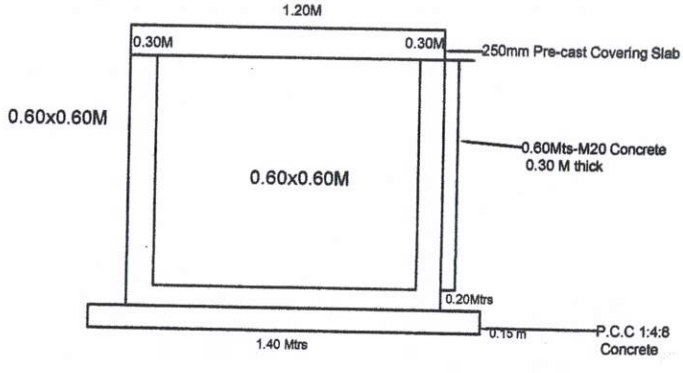
	Devi Nagar,Lotegahalli								
	RHS 2nd Cross Road		2.00	268.00	0.10		53.60		
	RHS 3rd Cross Road		2.00	246.00	0.10		49.20		
	RMV Cluster Phase 1 Road		2.00	269.00	0.10		53.80		
							156.60	525.80	82340.28
23	**Cost of Haulage Excluding Loading and Unloading Taking output 10 t load and lead 10 km = 100 t.km (V-III Page No.3, Item No.1.4 A of PWD SR 2021-22)**								
		t.km							
	Cost of Haulage (1x2.28x12)	27.36							
	Loading and Unloading	118.00							
		145.36							
	Area Weightage 10%	14.54							
	Total Rate	159.90							
	Qty frm Item No-1 & 2			697.20	1.28		892.42	159.90	142693.75
									6352195.03
							18%gst		1143395.11
						Missalaneous & Rounding			4409.86
						Total Ammount			7500000.00

Technical Sanction
Accorded For ....75:00 lakhs
Head of A/C....P.3726
CER NO :....116..... Dt:16-9-22

ADMINISTRATIVE APPROVAL
Accorded For Rs. Rs.75.00 lakhs only
Head of A/c. PS726
Div. Ref No. 55 Date 21/02/23
AE EE(BTP)



TYPICAL CROSS SECTION OF DRAIN



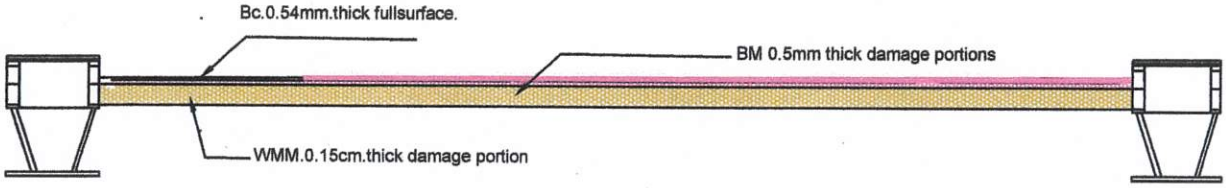
TYPICAL CROSS SECTION OF RCC CULVERT

Aartn Associates

Assistant Engineer

Assistant Executive Engineer
Yelahanka Zone
Bangalore-64

CLIENT:-		TITLE:	Revisions
BRUHAT BANGALORE MAHANAGARA PALIKE		TYPICAL CROSS SECTION OF & DRAIN RCC Culvert	Rev. / Date / Description: Initial Drawing for Approv
		SCALE :	



CROSS SECTION OF ASPHALT ROAD

Aartn Associates

Assistant Engineer

Assistant Executive Engineer
Yelahanka Zone
Bangalore-92

CLIENT:	CONSULTANT:-	PROJECT:-				Revisions		
BRUHAT BANGALORE MAHANAGARA PALIKE	AARTN ASSOCIATES		Prepared by		TITLE: Cross section details of Asphalt Road	Rev	Date	Description
			Designed by			R0		
			Checked by		GO SI No.:			
			Reviewed by					
			Date		SCALE: NTS			